

# A SUSPENSION FOR FILLING VIA HOLES IN SILICON AND METHOD FOR MAKING THE SAME

## Abstract

A metallization process and material system for metallizing either blind or through vias in silicon, involving forming a low coefficient of thermal expansion composite or suspension, relative to pure metals, such as copper, silver, or gold, and filling the via holes in the silicon with the paste or suspension. The suspensions sinter with minimal bulk shrinkage, forming highly conductive structures without the formation of macroscopic voids. The selected suspension maintains a coefficient of thermal expansion closer to that of silicon.